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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/913,518	11/04/1997	JEAN-PAUL DEBALME	1247-709-3VF	7024

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EXAMINER

AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 02/12/2003

41

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/913,518

Applicant(s)

DEBALME ET AL.

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 5-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The applicant has amended the claims to recite that the material produced was a “rigid void free” product. Applicant argues that the support for such language was derived from the translation of the foreign priority document. As discussed at length in the advisory action, applicant is not entitled to direct support for such language from the foreign priority document.

As set forth in MPEP 2163.07:

" Where a non-English foreign priority document under 35 U.S.C. 119 is of record in the application file, applicant may not rely on the disclosure of that document to support correction of an error in the pending application. Ex parte Bondiou, 132 USPQ 356 (Bd. App. 1961). This prohibition applies regardless of the language of the foreign priority documents because a claim for priority is simply a claim for the benefit of an earlier filing date for subject matter that is common to two or more applications, and does not serve to incorporate the content of the priority document in the application in which the claim for priority is made. This prohibition does not apply in a situation where the original application is in a non-English language (37 CFR 1.52(d)), or where the original application explicitly incorporates a non-English language document by reference."

The original application in this file was filed in English. While it is recognized that the English copy was a translation, it was not a translation as set forth in 37 CFR 1.52(d) which states :

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"If a nonprovisional application is filed in a language other than English, an English language translation of the non-English language application, a statement that the translation is accurate, and the processing fee set forth in § 1.17(i) are required."

Here the original application was not filed in a foreign language with a statement that the translation was an accurate translation and the appropriate fee. It should additionally be noted that the application did not include an incorporation by reference of the foreign application. Accordingly, the language presented in the amendment (void free) is deemed new matter.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Francis in view of O'Connor optionally further taken with PCT WO 90/14457.

Francis taught a process and device for forming a composite product by associating glass fibers (column 3, lines 68-69) and thermoplastic, "potentially adhesive" fibers column 2, lines 50-55, for example) together. The reference taught that one deposited upon a moving conveyor 3 a fabric 2 from a spool supply 2a. The fabric 2 was a woven or knitted material which included a mixture of both potentially adhesive thermoplastic fibers and non-adhesive fibers, see column 2, lines 27-34. The reference to Francis taught that upon this fabric which was disposed upon the moving conveyor 3 one deposited a layer of commingled potentially adhesive fibers and non-adhesive fibers in chamber 9. The fibers which were commingled together within

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the chamber were chopped fibers of glass and thermoplastic material. The reference taught that the potentially adhesive thermoplastic fibers only made up 5-45% of the finished product (and thus suggested that at least 40% of the finished product was formed from glass fiber), see column 11, lines 8-16. The reference taught that assembly of fiber layers including the fabric formed from the reinforcing fibers and the potentially adhesive fibers as well as the non-woven mat assembled thereon formed from the commingled fibers was fed through a number of zones wherein the assembly was subjected to heat and then cooled while the entire arrangement was being compressed, see column 9, lines 14-54. The reference taught the basic process as claimed, but failed to envision that one would have employed commingled fibers for both the fabric as well as the chopped fibers of the nonwoven web which was disposed upon the conveyor. Additionally, the reference failed to suggest that one would have taken the material up subsequent to the pressing operation or cut the same into discrete lengths after the pressing operation.

However, the inclusion of commingled fibers in both the nonwoven as well as the woven fabric layer in Francis would have been obvious to those skilled in the art in order to ensure adequate contact between the potentially adhesive fibers of the thermoplastic material and the non-adhesive glass fibers in the composite article as suggested by O'Connor. O'Connor taught that one skilled in the art would have employed commingled filaments of thermoplastic and reinforcing filaments in order to ensure adequate contact between the thermoplastic and reinforcing filaments (and better wetting of the reinforcing filaments when heat and pressure was applied) to form woven and nonwoven laminates of reinforcing filaments and thermoplastic filaments. More specifically, O'Connor suggested that by commingling the thermoplastic

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filaments with the reinforcing filaments one was able to attain intimate contact between the thermoplastic fibers which form the matrix and the reinforcing fibers and a more even and uniform impregnation of the reinforcing filaments. The applicant is referred to column 1, lines 27-31, column 1, lines 45-57. The reference taught that commingling of the thermoplastic filaments and the reinforcing filaments would have been performed in the manufacture of both nonwoven and woven fiber layers. The reference taught that in the formation of a nonwoven with the commingled yarns one would have chopped the same and deposited the short fibers together to form a mat or batt. O'Connor taught that as an alternative to the chopped bat of commingled fibers, a fabric formed from the commingled yarns would have been suitable and additionally a fabric formed from yarns where one yarn type used was a thermoplastic yarn and the other yarn type used was a reinforcing yarn which was woven together into a fabric (note that this is similar in nature to the fabrics of U.K. '768). The reference suggested that one would have desired intimate contact between the reinforcing filaments and the thermoplastic filaments and that one useful way for achieving the same would have been to commingle the filaments of thermoplastic and reinforcing materials together and utilize the same to either form a woven fabric or a nonwoven wherein subsequent to the formation one would have applied heat and pressure to the same in order to form a composite article. Because it would have ensured a better impregnation with the matrix, it would have been within the purview of the ordinary artisan to employ the mingling techniques of O'Connor in the process of Francis. While the reference to Francis failed to teach that one cut the finished product or stored the same on a reel subsequent to formation of the continuous product, such is taken as conventional in the art at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time the invention was

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made to employ the commingled filaments of O'Connor in the process of Francis in order to attain superior contact of the meltable adhesive fibers (which formed a matrix for holding the product together) with the glass fibers of the reinforcement.

It should be noted that Francis taught various alternatives which were useful in formation of the composite articles including application of the fabrics first upon the conveyor as well as application of the fabric onto the conveyor bearing the chopped fiber layers. The reference taught that any number of fabric layers would have been useful including the use of plural fabric layers disposed between alternating, see Figures 3-5, column 10, line 65-column 11, line 7. It should be additionally noted regarding claims 13 and 14 that the use of two separate supplies for the fabric layer (wherein the same was used to supply additional fabric in the production line when the initial supply was depleted such that one was able to continue the production of the composite without having to stop the process line) was taken as conventional in the art and would have been provided by the ordinary artisan in order to maintain the production operation (where the old exhausting supply was spliced to the new supply in order to maintain continuous production). Additionally, the use of a preheater in order to heat the material prior to passing into the double band press is taken as conventional in the art and would have been included in the device to reduce the heating requirements of the press as well as speed up the production rate of the process.

While it is believed that Francis taught all of the critical elements of the claimed invention and that the use of commingled filaments would have been obvious in light of O'Connor, the reference to PCT '457 is cited to show that those skilled in the art would have understood that a suitable guillotine would have been included in the device at the end of the

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double band press (note above such was taken as conventional in the art). The reference to PCT '457 suggested that one would have included a cutting mechanism 12 at the end of the double band press 11 where a layer of nonwoven glass fibers and thermoplastic fibers have been consolidated under heat and pressure and cooled under pressure to form a composite web. The cutting was to provide the desired length for the finished product. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Francis to form a composite article from glass fibers and adhesive thermoplastic fibers which were commingled according to the suggestion of O'Connor and wherein subsequent to compaction and application of heat and cooling one cut the same to a desired length in order to achieve a finished composite article.

With regard to the amended claims, the applicant is advised that the reference to Francis suggested that any degree of compaction would have been provided as desired in order to provide any desired level of thickness and density. The reference to Francis therefore suggested that one skilled in the art would have known to use the heat and pressure to produce a rigid, void free (the higher the density the lesser the number of voids) composite article. The reference does not expressly state that the finished end product is void free, however: (1) as noted above such language was not in applicant's possession at the time the invention was made (i.e. it is new matter), and; (2) production of a void free end product in Francis would have been a function of the amount of compaction provided (for which Francis provided a wide range) as well as the amount of potentially adhesive fibers present in the mixture of fibers (enough potentially adhesive fiber must be present to provide a matrix for the finished assembly when heated above the melting point of the same. the applicant is advised in this regard that a wide range for the

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percent of thermoplastic fibers in the assembly was disclosed and thus the degree of porosity within the finished assembly would have been perceived by Francis. There is no evidence that consolidation with the belts during heating and cooling would have required that the fiber layer remain porous in order to heat and cool the same (such is a conclusion drawn by applicant which is without merit). Additionally, the reference to O'Connor clearly suggested that one skilled in the art would have formed the mat layers as well as the fabric layers from commingled yarn material. Those skilled in the art would have used the same because of the intimate contact between the thermoplastic fiber and the reinforcing fiber in the material.

5. Claims 1 and 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with any one of Taylor et al, E.P. 466,618 or Vane.

While the reference to Francis made it clear that those skilled in the art at the time the invention was made would have applied heat and pressure in order to consolidate the fibers of thermoplastic and reinforcing filamentary material in order to attain a finished composite article of the desired density, there is no express evidence that such would have included densities such that the finished assembly was void free. However, in the art of making a composite article, it was known at the time the invention was made to incorporate commingled fibers therein and that the use of the same enabled one to produce a finished composite article which had no voids therein as evidenced by any one of Taylor, E.P. '618 or Vane. More specifically, applicant is referred to column 7, lines 40-46 and column 7, lines 65-column 8, line 9 as well as column 8, lines 10-13 of Taylor, E.P. '618 in the abstract of the disclosure made it clear that those skilled in the art would have produced void free composite articles from commingled thermoplastic and

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reinforcing fibers and applicant is referred to the same. Vane at column 5, lines 15-29 made it clear that the incorporation of commingle resulted in a composite which was void free. It would have been obvious to one of ordinary skill in the art at the time the invention was made form a composite which was void free from commingled thermoplastic and reinforcing filaments as such was known to have been desirable as evidenced by any one of Vane, E.P. 466,618 or Tailor et al in the process of making a composite according to the techniques of the references as set forth above in paragraph 4 wherein adequate heat and pressure were applied to manufacture a high density void free composite.

Response to Arguments

6. Applicant's arguments filed 1-14-03 have been fully considered but they are not persuasive.

The applicant argues that Francis is not a void free and rigid composite article. To the extent that applicant has support to recite a void free composite article, applicant is advised that the references to Vane, Tailor and E.P. '618 clearly suggested that those skilled in the art at the time the invention was made would have provided a finished composite article which was void free as a function of the use of commingled fibers therein (which O'Connor clearly envisioned as assisting in impregnation of the reinforcement. The applicant is additionally advised that Francis clearly stated that the degree of compaction when heated would have affected the finished density of the final assembly. Note that density is a function of the void content in the final assembly and one desiring a highly dense structure would have understood to apply high heat and compaction pressure to render the composite of Francis dense. Such would have resulted

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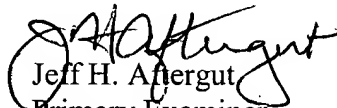
(with adequate compaction pressure⁰ in a void free composite as suggested by Vane, E.P. '618 or Tailor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 703-308-2069. The examiner can normally be reached on Monday-Friday 6:30-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
February 9, 2003